

NOTES ON THE LEPIDOPTERA OF THE NORTHERN TERRITORY OF AUSTRALIA, WITH DESCRIPTION OF NEW SPECIES

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SUMMARY

This paper contains a list of sixty-three species of Rhopalocera collected in the Northern Territory April-May 1948 by the author. There are several species not previously recorded from the Territory, including two new to science. These new species have been described, and also a new Castniidae (Sub-order Heterocera), under the following names:—

Ogyris hewitsoni parsonsi—A variable race from Central Australia, bred from larvae.

Suniana larrakia—One specimen from Darwin. Description and notes by L. E. Couchman, F.R.E.S.

Synemon wulwulam—A new clubbed-antennae moth from Pine Creek. Types are figured on a photographic plate.

DISCUSSION

During the months of April and May, 1948, Mr. F. E. Parsons and the writer spent five weeks on a collecting trip between Adelaide, South Australia, and Darwin, Northern Territory, during which a systematic survey was made of the Rhopalocera of the Northern Territory, along and within a short distance of the Stuart Highway.

Although in the aggregate a lot of entomological material has been collected in the Darwin area, very little appears to have been published about it; so the object of this paper is to record the species collected in the various localities visited during the above mentioned trip, in the hope that it may add a little to our knowledge of the distribution of the Australian butterflies in the less frequented parts of the North.

The time of the year, April 15 - May 10 1948, was after the wet season, and during the whole trip no rain was experienced. However, the roads to Daly River and Alligator River were reported to be impassable, which made a contemplated visit to those parts impracticable. Consequently the collecting about Darwin was confined to short daily trips.

As might be expected very little insect life was in evidence in the dry country between Alice Springs and Elliott, and it was not until the better watered parts of the Northern Territory were reached that the tropical species began to appear.

In all, sixty-three species of Rhopalocera were recorded during the trip, including two new species, as well as a number of Heterocera.

In the preparation of this paper, the author acknowledges the very great help he has received from the following gentlemen:—Mr. N. B. Tindale, of the South Australian Museum, for his kindness in preparing the photographic plate and assistance in the identification of species; Mr. L. E. Couchman, F.R.E.S., of Hobart, who so willingly undertook the description of the new species of *Suniana* and the examination of the specimens of the difficult Subfamily Hesperinae, involving much bibliographical research. His interesting notes and description are included as an addendum to this paper. Special thanks are also due and hereby acknowledged to Mr. F. E. Parsons, who collaborated in collecting material and generously provided the motor car for the trip.

Order LEPIDOPTERA
Suborder RHOPALOCERA

DANAIDAE.

Danaus chrysippus petilia (Stoll) 1790.

This widely distributed species was abundant at Darwin, and was observed at Elliott, Katherine, Adelaide River and Roper River.

Danaus affinis affinis (Fabricius) 1775.

Common at Darwin and Manton River, also occurs at Katherine, Adelaide and Roper Rivers, and Pine Creek.

Danaus hamata hamata Macleay 1826.

Mostly seen in a small rain-forest patch near Darwin, but not abundant. Several observed at Adelaide River and Katherine. Specimens taken in April were mostly worn, but some captured in May appeared to be freshly emerged.

Euploea core corinna (Macleay) 1826.

This is the common *Euploea* of the North, and was noted at Katherine, Adelaide River, Pine Creek, Manton River, Berry Springs and Darwin. The dense shade in forest areas seems to be particularly attractive to this butterfly. Larvae from a small creeper at Elizabeth River, pupated and emerged within a fortnight.

Euploea pelor Doubleday 1847.

Rather scarce and only found in the densely shaded rain-forest at Knight Beach, about four miles from Darwin.

Euploea darchia darchia (Macleay) 1826.

Not common. Mostly observed above the cliffs near the beach at Darwin. Has a leisurely floating flight and is easily caught.

SATYRIDAE.

Melanitis leda bankia (Fabricius) 1775.

First observed at Adelaide River flying at dusk and settling on a cask at the rear of the hotel. Very common at Darwin, where several larvae and many pupae were found in coarse grass. Both the ocellated and plain forms of this variable species were obtained, some of the latter being almost black on the underside. This species was seen at Manton Weir, and at the lily ponds near Pine Creek.

Mycalopsis perseus perseus (Fabricius) 1775.

Specimens taken at Elizabeth River and at several localities near Darwin. Keeps to the grass and undergrowth in damp places, usually near running water.

Mycalopsis sirius sirius (Fabricius) 1775.

Its habits resemble those of *M. p. perseus*; both species are sometimes found flying in association. Specimens taken are from Darwin, Berry Springs and Adelaide River.

Ypthima arctous (Fabricius) 1775.

Common at Darwin, Berry Springs, Manton River and Pine Creek. It frequents the grass and has a weak flight.

Hypocysta adiante antirius Butler 1868.

This dainty little *Satyrid* is widely distributed and common. Specimens taken are from Adelaide River, Pine Creek, Manton River, Berry Springs and Darwin. Although its flight is weak and it seldom flies far, its habit of flying through the long coarse grass demands patience to secure good specimens.

NYMPHALIDAE.

Hypolimnna bolina nerina (Fabricius) 1775.

Unexpectedly, this well-known butterfly was rather scarce. Most specimens seen during April were much worn, but some fresh examples were secured during the month of May, suggesting the time of our visit was between broods. Captures were made at Darwin, Adelaide River and Katherine. Two pupae were obtained at Katherine on 12 May.

Hypolimnna misippus (Linnaeus) 1764.

More plentiful than the previous species. At Adelaide River both sexes were moderately plentiful in a cucumber patch in a soldier's garden. The owner stated that the butterflies were attacking the cucumbers, but on being questioned, admitted that he had not seen any caterpillars on the vines. A careful search failed to find larvae or pupae. On entering the outdoor bedroom at the hotel at Adelaide River, two pupae were found suspended head downwards, under the window, from which a pair of *H. misippus* emerged. The pupa of this species resembles that of *H. bolina* in shape and has similar sharp dorsal spines, but is smaller and of a uniform brown colour. This species was not uncommon at Darwin. On the wing the female is hard to distinguish from *Danaus c. petilia*, in spite of a different flight.

Cethosia penthesilea paksha Fruhstorfer 1905.

This is another species that closely resembles *Danaus c. petilia* when flying. Two specimens were taken near the cliffs at Darwin, and on only one other occasion was it positively identified when it flew into a dense forest, near Knight Beach.

Precis villida calybe (Godart) 1819.

The commonest butterfly seen in the dry interior. Along the railway line from Quorn to Alice Springs it was identified at frequent intervals. On the Stuart Highway from Alice Springs it was seen as far as Elliott, where examples were collected. On the return journey it was scarce, so that May would seem to be the end of its season in the interior.

Precis orithya albicincta (Butler) 1875.

First observed near Dunmarra, occasionally at Katherine, and commonly at Pine Creek, Adelaide River and Darwin. It was fond of sunning itself on the bitumen roads, but when approached was very alert and actively took flight. The habitat of this and the previous species did not appear to overlap.

Precis hedonia zelima (Fabricius) 1775.

Not common. Observed near Darwin, Berry Springs, Manton River, Elizabeth River, Pine Creek and Lily Ponds, usually near running water. Has a restless flight and keeps to the undergrowth close to streams.

Acraea andromacha (Fabricius) 1775.

Very common and, with its slow flight, easily captured. Recorded from Laramah, Katherine, Pine Creek, Adelaide River, Manton River, Berry Springs and Darwin.

LYCAENIDAE.

Nacaduba ancyrus estrella Waterhouse and Lyell 1914. Specimens taken at Adelaide River and Darwin. Very few were seen.

Nacaduba dubiosa dubiosa (Semper) 1878.

This species was also seldom observed. Examples recorded are from Adelaide River and Darwin.

Nacaduba biocellata biocellata (Felder) 1865.

Outside the Gap at Alice Springs this double spotted blue was flying in small numbers and settling on the leaves of a species of *Acacia*. It was not seen further north.

Everes argiades (Pallas) 1771.

Very few seen. Specimens were collected at Adelaide River and Darwin.

Euchrysops cnejus cnidus Waterhouse and Lyell 1914.

Generally observed in all localities visited from Katherine to Darwin. Specimens were collected at Katherine, Adelaide River and Darwin.

Jumides phaseli (Mathew) 1889.

Only seen at Darwin where it was very scarce, and only two specimens were collected.

Catochrysops platissa (Herrich-Schaeffer) 1869.

First observed at Laramah settling on the wet ground at a muddy pool at the railway station. Specimens taken were from Katherine and Darwin.

Anthene emolus affinis (Waterhouse and Turner) 1904.

Rather common at certain spots near Darwin. A fair size colony of larvae and pupae was found on a small sapling near Knight Beach. They were attended by green ants. This species was also recorded from Katherine.

Zizeeria labradus labradus (Godart) 1819.

This notoriously common Blue was in evidence at all localities inspected. Examples were obtained at Alice Springs, Wauchope, Elliott, Adelaide River, and Darwin; those from the drier parts, such as Wauchope, being below the average size.

Zizeeria alsulus alsulus (Herrich-Schaeffer) 1869.

Occurs in most localities north from Katherine. Specimens were collected at Katherine, Dunmarra, Daly Waters, and Darwin.

Zizeeria trochilus putli (Kollar) 1844.

This dainty little Blue frequents the long grass at Darwin but was not often seen, and only two examples were obtained.

Neolucia serpentata (Herrich-Schaeffer) 1869.

Observed flying in a garden at Alice Springs where specimens were obtained. It is a darker race than the species from South Australia. Was not seen north of Alice Springs.

Theclinesthes miskini (Lucas) 1889.

Specimens collected at Katherine and Darwin have been identified as a small race of this species.

Ogyris hewitsoni parsonsi subsp. nov.

Plate I; fig. 7, 8, 9, 10

Male—Above with forewing bright spectrum blue, changing to blue-violet when obliquely viewed; apex and termen narrowly edged with black; cilia smoky grey, almost black at the terminations of the veins. Hindwing bright spectrum blue; costa narrowly black; termen very narrowly black; cilia light grey with black at the veins.

Beneath with forewing brownish-grey; area of cell black with five dull white transverse bars which usually are tinged with blue; a discal dark brown band broken into five irregularly offset sub-rectangular segments, the second being shifted towards apex, and the third towards the base. Hindwing dark grey, lighter towards apex and termen; an irregular wavy pattern of darker grey scales, each pattern margined with black lines.

Female—Above with forewing bright spectrum blue changing to blue-violet when obliquely viewed; white suffusions in cell and in discal area; costa, apex and termen narrowly black; a narrow black bar at end of cell; veins beyond cell faintly black; margin of costa near apex, apex, and termen with small grey patches; cilia grey with black fringe. Hindwing bright spectrum blue; costa and apex black, edged with grey; termen and tornus narrowly black; cilia grey with black fringes.

Beneath with small cell bar at base of forewing orange-brown; a second cell bar narrowly black; a third larger and burnt orange in colour; each bar edged with metallic blue; end of cell with a silver spot, tinged faintly with blue, and surrounded by a broad black area; inner discal area white; discal band black; area beyond discal band to apex with termen light grey, shading darker. Hindwing grey, lighter near costa and apex; in centre of wing a sub-rectangular or zig-zag dark patch; other markings grey, edged with black.

Holotype male, labelled Aileron, Northern Territory of Australia, 5 September 1948, and allotype female, labelled Aileron, Northern Territory, 2 September 1948, collected by F. M. Angel. Both specimens in the collection of the writer; length of forewings respectively 19 mm. and 21 mm.

In addition to the type pair, thirty males and twenty-seven females were bred from larvae taken near Aileron, Northern Territory, on desert oaks (*Casuarina*) on which mistletoe was attached. Five males were captured on the wing on 15 May 1948. The bred specimens emerged at various dates between 5 August and 14 September 1948. All these specimens have been examined.

The type pair selected from the above series are examples of the dominant form. The series as a whole shows considerable variations in markings, particularly on their undersides. In several examples of both sexes the discal band is reduced to two small spots, in areas 2 and 3, and there are other specimens with intermediate stages between this and the dominant form. The general colour scheme on the underside also varies; in two females the conspicuous coloured bar in the cell is dark brown, while one of these is entirely without the discal band; possibly the last named is an aberration.

Another form of variation is in the shade of blue of the upper surface of both sexes. Two different colour types are present; however, the difference between the spectrum blue form and a slightly paler one are so slight that no colour names can be found to differentiate them. Length of forewings, males 16-20 mm., females 18-22 mm.

Ogyris hewitsoni parsonsi may be distinguished from typical *O. h. hewitsoni* by the different shade of blue, and by possessing very narrow black margins to the upper side of the wings. The white suffusion present in the female is characteristic, and the narrow bar at the end of the cell (vestigial in some examples) makes this sex also readily recognisable from typical *O. h. hewitsoni*.

All the specimens taken on the trip have been compared with the long series of species representing *O. amaryllis* and *O. hewitsoni* in the South Australian Museum at Adelaide, as well as those in the collections of F. E. Parsons and the writer. In the South Australian Museum there are two specimens labelled as follows:—

- 1 male, Konamata, west of Mount Kintore, North-West of South Australia, July 1933, collected by N. B. Tindale.
- 1 male, Central Mount Stuart, Central Australia, collected by F. Wood Jones.

These are identical with the above specimens and are hereby designated as paratypes. They indicate that the range of this race extends over a considerable area of Central Australia.

The food plant is a greyish species of mistletoe growing on Desert Oak (*Casuarina Decaisneana*). In the daytime, the larvae shelter under loose bark or other suitable cover and are attended by a small species of black ant. In some instances where there was no other suitable shelter, larvae were found in ant tunnels in loose earth. In captivity the larvae were without the ants and their natural food plant, but fed on apple, and a fair proportion were successfully reared.

It may be of interest to record that a specimen of *Ogyris hewitsoni*, probably this race, was observed from the train about twenty miles south of Alice Springs on 18 April, one on the Stuart Highway about fifty miles north of Alice Springs on 20 April, and on 15 May a small number was seen on the wing near Aileron.

The interval of approximately three months or more between these dates, and the emergence of the bred specimens, suggests that this race has at least two broods during the year.

This sub-species is named in honour of Frank E. Parsons, who shared with the writer in the discovery and rearing of this new race.

The paratypes figured on pl. I are examples of the variant markings of the underwings, more particularly in the discal area of both sexes. As mentioned in the description, the dominant form has a continuous though irregular discal band, but this feature is not constant in some specimens and varies in intermediate stages from a well-defined band to two small spots. The upper sides of the specimens figured agree very well with the holotype and allotype, but allowance should be made for the fact the photographic process does not show the white suffusion on the female, which is a distinctive feature of that sex of the subspecies.

Amblypodia centaurus asopus (Waterhouse & Lyell) 1914.

Observed in several localities along the coastal cliffs at Darwin, and also at Parap. It has a strong flight and usually settles high up in trees, but sometimes in low shrubs; in all cases green ants (*Oecophylla smaragdina*) were present near the resting place.

Amblypodia amytis amydon Waterhouse 1942.

Its habits resemble those of the former species, and specimens were obtained in the same localities. In spite of its brilliant colouring on the upper surface of the wings, it is not very conspicuous in flight or at rest. It appeared to be rather more numerous than *A. c. asopus*. A pupa obtained at Elizabeth River, which failed to emerge, was no doubt an *Amblypodia*, although no butterfly of either species was seen there.

Hypolycaena phorbis ingura Tindale 1923.

This butterfly is also associated with the green tree-ant, and is often seen on the same shrubs that *Amblypodia* frequents. The species was rather plentiful in the Darwin area but only occasionally seen inland.

PIERIDAE

Elodina perdita walkeri Butler 1898.

Taken at Darwin flying along the top of the cliffs, also at Berry Springs and Adelaide River. Nowhere was it plentiful or flying in numbers.

Cepora perimale scyllara (Macleay) 1826.

Noticed at Laramah settling on a drying muddy pool on the road. At Adelaide River, Pine Creek, Manton River, Berry Springs and Darwin it was fairly plentiful. Specimens captured showed that they were all of the light phase on the underside, either white or pale yellow.

Anaphaeis java teutonia (Fabricius) 1775.

Odd specimens were observed from the train when nearing Alice Springs. Near the Gap this species was flying in hundreds about a large *Cassia* bush which was stripped almost bare, and on which there were many pupae, and a few larvae struggling for existence. Within fifty yards there were several healthy *Cassia* shrubs which the butterfly apparently had ignored. This species was also found flying in small numbers at Elliott.

Appias paulina ega (Boisduval) 1836.

This species was mostly confined to a small rain-forest near Knight Beach, about four miles from Darwin, where a small number were present. Nearer Darwin it was occasionally seen.

Eurema hecabe phoebus (Butler) 1886.

Specimens were taken at Daly Waters, Katherine, Pine Creek, Adelaide River, Manton River, Elizabeth River, Berry Springs and Darwin. It is the commonest of the grass yellows in the North, and varies considerably in size.

Eurema drona australis (Wallace) 1867.

Recorded from Pine Creek.

Eurema laeta herla (Macleay) 1826.

Several specimens collected at Pine Creek.

Eurema smilax (Donovan) 1805.

Often seen along the Stuart Highway. Specimens were taken at Dunmarra, Pine Creek, Adelaide River and Darwin.

Eurema sana (Butler) 1877.

This species apparently was rare. One specimen was taken at Pine Creek, and another at Adelaide River.

Catopsilia pomona pomona (Fabricius) 1775).

First observed at Elliott, and later at Laramah. At Darwin it was very common along the cliffs, and larvae were found in great numbers; in one instance the foodplant had been completely defoliated. Specimens, both captured and bred, varied considerably in size. Length of forewing varied from 22 mm. to 40 mm.

Catopsilia scylla etesia (Hewitson) 1867.

Although often observed flying with the former species it appeared to be rather scarce. Specimens were taken at the Darwin cliffs, but more often near a rain-forest at Knight Beach.

PAPILIONIDAE.

Papilio fuscus canopus Westwood 1842.

Only a few examples of this swallow-tail were seen, and these in a dense rain-forest near Knight Beach. Specimens captured were all more or less ragged and worn, which seemed to indicate that it was the end of the season for this species.

Papilio demoleus sthenelus Macleay 1826.

One specimen was seen at Wauchope flying over an *Oleander* shrub. At Katherine a small number was seen flying near its foodplant on which one pupa and several half-grown larvae were found. The latter were left for observation on the return journey, but unfortunately a bush fire had destroyed the food plants before the subsequent visit. The butterfly is a strong flyer and very wary. Specimens were collected at Katherine, and one example at Pine Creek. The last mentioned locality is the farthest north the species was noted.

Papilio eurypylus nyctinus Waterhouse and Lyell 1914.

One freshly emerged example was seen hovering over a flowering tree at the edge of the cliffs at Darwin.

Cressida cressida cassandra (Waterhouse and Lyell) 1914.

This species was found rather plentifully at Adelaide River, Berry Springs and other localities near Darwin.

HESPERIIDAE

Neohesperilla croceus (Miskin) 1889.

Two examples taken at Adelaide River on 24th April were the only specimens seen.

Taractrocera dolon diomedes Waterhouse 1933.

Superficially the species of the Subfamily *Hesperinae* are so much alike when seen in the field, that it is almost impossible to distinguish them with certainty. Particularly is this so with the genera *Taractrocera* and *Ocybadistes*, and as the number of individuals of these two were never plentiful, the species represented in the specimens captured were more than expected. The abovementioned species was represented by a single example taken at Adelaide River.

Taractrocera ina ina Waterhouse 1932.

Several specimens were taken at Darwin on various dates.

Ocybadistes flavovittata vesta Waterhouse 1932.

This species was found in several localities at Darwin, and also at Berry Springs, but at no time were many observed flying together.

Ocybadistes walkeri olivia Waterhouse 1932.

Mostly taken at Berry Springs, where in a small patch near the river they were in fair numbers. Specimens were also collected occasionally at Darwin.

Ocybadistes hypomeloma vaga Waterhouse 1932.

This larger species was rarely seen. Two specimens were obtained at Adelaide River on 24th April, and one at Darwin on 30th April.

Suniana larrakia n. sp. (*vide* description by Mr. L. E. Couchman in addendum).

A specimen taken at Darwin on 28th April 1948 was the only one observed.

Telicota colon argens (Ploetz) 1883.

Its bright colouring makes this species conspicuous in the field, and it was fairly common at Darwin and Berry Springs. Specimens were also taken at Adelaide River and Katherine.

Telicota augias argilus Waterhouse 1937.

Resembles the previous species in colour and habits, but was not so plentiful. Examples were collected at Berry Springs and Darwin.

Cephrenes trichopepla (Lower) 1908.

Frequently seen in the Darwin area, where its strong flight and showy appearance when it settles attracts attention. It was also noted at Adelaide River.

Borbo impar lavinia (Waterhouse) 1932.

This was scarce. One specimen was taken at Adelaide River on 24 April, and also at Darwin on 28 April and 4 May 1948.

Borbo cinnara (Wallace) 1866.

Specimens were obtained at Adelaide River, Darwin and Berry Springs, where it was more plentiful than the preceding species.

Pelopidas agna dingo Evans 1949.

Recorded from Darwin and Berry Springs during the first week of May, but was only seen occasionally.

Order LEPIDOPTERA
Suborder HETEROCERA
Family CASTNIIDAE
Plate I; fig. 1, 2, 3, 4

Synemon wulwulam n. sp.

Male—Expanse of wings 39 mm.

Above, with forewing light brown, darker at termen; costa pale cream; a transverse cream area extending from outer part of cell towards tornus to area 2, where it joins with a narrow curved discal band from near the apex; within this lighter area at end of cell an irregular spot dark brown; veins in discal area cream; termen rounded; cilia brown. Hindwing dark brown, almost black, with outer ends of areas 2 and 3 somewhat paler; three or more sub-terminal spots in areas 4, 5, and 6 dull ochreous yellow; termen and cilia with predominantly dark brown scales. Beneath with basal part of forewing from middle of cell to tornus dark brown; outer part of cell to tornus and apex golden yellow; an elongated spot at end of cell dark brown; apex of wing narrowly black; ends of veins from below apex to tornus dark brown obscured with yellow scales; cilia opalescent white with a narrow brown line. Hindwing dark brown almost black; a series of paired spots in areas 2, 3, 5, and 6, and one spot in area 4 golden yellow; cilia with brown and white scales.

Female—Expanse of wings 41 mm.

Above, forewing resembles in markings that of the male, but the colour in the basal half of wing is a somewhat darker brown which accentuates the pattern, and the elongated spot at end of cell is more prominent; cilia with predominantly greyish-white scales. Hindwing very dark brown; areas 2, 3, and 4 have each a single rather brighter ochreous yellow spot near termen, area 5 has two conjoined bright yellow spots, and area 6 a short yellow band formed from two spots; cilia brown with some white scales. Underneath of both wings similar to male.

In both sexes the head, thorax and abdomen are dull brown above and greyish-white beneath. The clubbed antennae are brown above, but underneath the terminal portion of the antennae is greyish-white.

Holotype male, labelled Pine Creek, Northern Territory of Australia, 23 April 1948; and allotype female, labelled Pine Creek, Northern Territory, 11 May 1948, collected by F. M. Angel. Both specimens in the collection of the writer; paratypes are lodged in the South Australian Museum.

The type pair have been selected from a series of twenty-five specimens captured at Pine Creek; it was taken also at Adelaide River, and near Dunmarra. At the last mentioned locality, where the species was first observed, it was flying amongst short undergrowth in a damp spot. A few specimens taken there are larger than the types. At Pine Creek it frequented a dry comparatively bare patch on which the only vegetation was a short stunted species of sedge, which was probably its food plant. The moth was flying in fair numbers on both visits on 23 April and 11 May 1948.

The most striking characteristic of the species is the large golden-yellow patch on the underside of the forewings; the alternate flashing and disappearance of this makes the insect very conspicuous when it is in flight.